**AEROSPACE CAREERS ARE FOR EVERYONE!**

When you think of aerospace, you probably associate careers with astronauts, walking on the moon, Neil Armstrong, space shuttles and space walks. While those certainly make powerful impressions, you should be aware that not every space career involves jumping around in a big spacesuit. There are many opportunities available for exciting aerospace careers and jobs in areas ranging from astronaut to sheet metal shop personnel. The 21st century promises the challenge for humans to live and work in space. The achievements of scientists, engineers, technicians, and specialists who will build and operate the International Space Station are the legacy of the National Aeronautics and Space Administration (NASA). Every aspect of the aerospace industry is exciting and vital. Each individual on a team is key to the success or failure of that team and their project. If the project involves sending astronauts into space, the success extends beyond the realm of financial considerations into the realm of preserving human life. The sheet metal shop technician is just as vital to the team as the astronaut. The following websites will help you to learn more about the various career opportunities in the field of aerospace and see what it is really like to help reach for the stars.

http://kids.msfc.nasa.gov/Pioneers/
Astronauts and other Pioneers are the foundation of the NASA's Space mission. Without their striving to learn and do the tough things, we would never leave the planet earth.

http://mgs-mager.gsfc.nasa.gov/Kids/careers.html
The following list of possible careers in the aerospace field is by no means exhaustive, but it gives an idea of the wide variety of things you can do and still be related to space.

http://www.ueet.nasa.gov/StudentSite/aeronautics.html
What is aeronautics? What are the processes involved? What career opportunities are there?

http://spacelink.nasa.gov/Instructional.Materials/Curriculum.Support/Careers
This link explains which courses to take and what types of jobs are available in careers in Aerospace, Earth Science, Space Science, and Technology.

http://www.nasajobs.nasa.gov/jobs/astronauts/astronauts.htm
Search this page for information on astronauts, what they do, who they are, how to qualify, and how and when to apply.

http://quest.nasa.gov/services/people.html
Meet the people of NASA, enthusiastic people with diverse and exciting careers who are making the dreams of yesterday come true today and who are developing the technology and visions for tomorrow.

http://www.dfrc.nasa.gov/trc/careers/escape/Escape.html
The essential job of Aircraft Escape Systems maintenance is part of the mission of the Life Support Branch and includes the ejection seats that are used in a fleet of NASA research and support aircraft.

http://www.dfrc.nasa.gov/trc/careers/instrument/instrumentation.html
The work by Instrumentation Engineers includes: designing the sensors and instruments used to collect and record data during research flights used primarily to investigate and validate new ideas and theories; and to monitor aircraft, engine, and systems performance during flight. The number of sensors on NASA research aircraft range from hundreds to thousands, based on the complexity of the project. Instrumentation engineers must have excellent problem-solving skills.

http://www.dfrc.nasa.gov/trc/careers/life/life.html
When a NASA pilot suits up for a research flight, the Life Support Equipment personnel issue, maintain, and when necessary repair or replace nearly every article of clothing and flight equipment. The branch also helps develop and test new items of flight crew equipment. Math and general science, plus physiology, are subjects that would aid anyone seeking entrance into or already working in the life support field.

http://www.dfrc.nasa.gov/trc/careers/research/research.html
Research pilots have helped shape modern aeronautics. Tests and verification work in simulators, laboratories and wind tunnels are necessary in the evolutionary development of new aircraft designs, components and systems. But research pilots do much more than fly, they become important members of each research project to which they are assigned. As a project moves from the planning stage to the day of flight, the pilots offer valuable technical advice in a wide range of disciplines that include vehicle design, handling qualities, aerodynamics, flight safety, performance and management of flight systems, guidance and navigation systems, energy management techniques and physiological factors. Individuals seeking a career as a NASA research pilot must possess a bachelor of science degree in engineering, physical science, mathematics or computer science.

http://www.dfrc.nasa.gov/trc/careers/sheet/SheetMetal.html
The personnel of the Sheet Metal Shop face different and challenging work every day and enjoy a wide variety of tasks in their occupation. With their combined experience and equipment, they have the capability of building a complete aircraft. Skills required to work in the Sheet Metal Shop can be obtained from many vocational schools.

http://www.dfrc.nasa.gov/trc/careers/fluid/Fluid_Sys.html
The mission of the Fluid System Lab is to design, manufacture, modify, and repair all aircraft fuel, pneumatic (nitrogen), and hydraulic (fluid) plumbing systems on aircraft and in ground support equipment in support of all flight operations carried out at the center. Many vocational schools offer training in fluid dynamics, a necessity in this field.

http://www.dfrc.nasa.gov/trc/careers/machine/Machineshop.html
The official title of each machine shop member is Model Maker, but they are specialized engineering technicians who provide a complete aircraft modification capability by producing one-of-a-kind machined parts that modify an aircraft to carry out a specific research role. This capability is critical because modification work rarely uses components "off the shelf." Most are custom made for specific research projects. They must be knowledgeable in all types of metals and other materials common to aircraft construction, be skilled in mathematics and trigonometry, and take an idea and transform it into a functional system. This involves analyzing a problem or situation and coming up with a workable solution.

http://www.dfrc.nasa.gov/trc/careers/comm/comm.html
There are two basic types of avionics communications systems: Radio communications systems which allow a pilot or crew member to speak with people in another aircraft (air-to-air) or with someone at a ground station (air-to-ground); and intercommunications system (ICS) which allows a pilot or crew member to communicate with another person in the same aircraft. Individuals interested in working in the communications field must have a broad background in aviation electronics (avionics) and in mathematics. Most community colleges offer formal training in electronics, while most technical schools have courses specifically covering aviation electronics.

http://www.dfrc.nasa.gov/trc/careers/aerodynam/aerodynam.html
Aerodynamicists are responsible for the design and implementation of flight research projects, and analysis and publication of the research results. They are typically involved in the study of vehicle aerodynamics, local aerodynamics, test technique development, meteorology and air data. Aerodynamics engineers possess a bachelor of science degree and many have advanced degrees. The most common degrees are in aerospace, aeronautical or mechanical engineering, but also included are degrees in electrical engineering, mathematics and physics.

http://www.dfrc.nasa.gov/trc/careers/mission/mission.html
An Engineering Mission Planner must have the ability to communicate skillfully with people at all levels of management and disciplines. The EMP must be able to prioritize events and arrange productive flight test procedures and schedules resulting in safe and successful flights. An important attribute for an EMP is the ability to see the "big picture" of a research project. Undergraduate education should include coursework at all levels of mathematics, science, physics and computer operations. Individuals interested in working in this career field should have a bachelor of science degree in aerospace, aeronautical or mechanical engineering.

Teacher Notes: Although, this activity is aimed at grades 4-9, high school students could benefit from this site, which provides insight to a multitude of aerospace professions. Teachers may find it useful in teaching students how to write business letters, create a resume or how to complete job applications, Students could self assess their strengths and skills at an early age or when ending high school. Specific references to academic requirements enable students to plan ahead for potential job possibilities as they prepare for their future.

National Science Educational Standards:
Content Standard B: Physical Science relates the engineering requirements to the school basics of math and science.
Content Standard E: Science and Technology connects the concepts of model making with wing design and futuristic aerodynamic improvements.